

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: S. Maezawa et al. : Art Unit:
Serial No.: To Be Assigned : Examiner:
Filed: Herewith :
FOR: MULITLAYER PRINTED WIRING :
BOARD AND ITS MANUFACTURING
METHOD

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231
S I R :

Prior to examination, please amend the above application as follows:

IN THE SPECIFICATION:

After the title and before the first paragraph:

THIS APPLICATION IS A U.S. NATIONAL PHASE
APPLICATION OF PCT INTERNATIONAL APPLICATION
PCT/JP00/08803.

IN THE DRAWINGS:

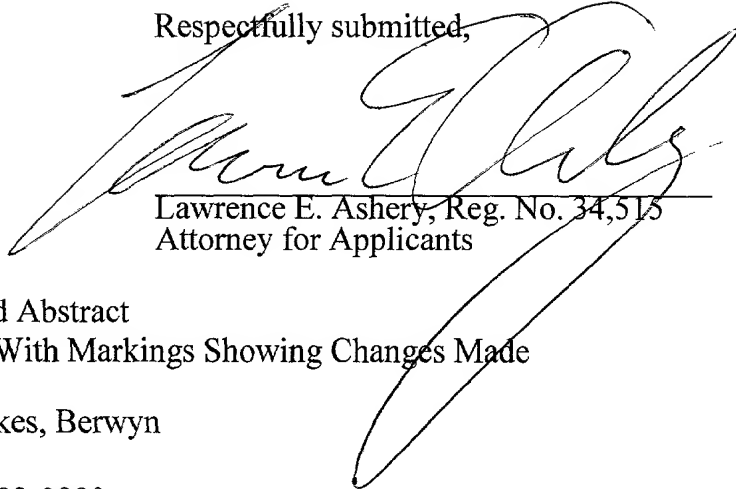
Please delete pages "4/5" and "5/5" of the drawings, also labeled as "Key to Reference Alphanumeric Characters" in their entirety.

ABSTRACT:

Please replace the abstract with the new abstract which is

attached as a separate sheet.

Respectfully submitted,



Lawrence E. Ashery, Reg. No. 34,515
Attorney for Applicants

LEA/dlm

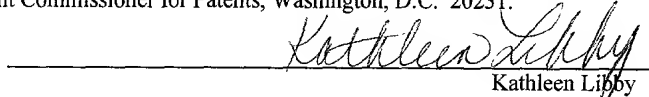
Enclosure: Amended Abstract
Version With Markings Showing Changes Made

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Kathleen Libby

ABSTRACT

A multilayer printed wiring board includes (a) an inner layer material that includes an insulating substrate, an inner conductive pattern formed of a metal foil and disposed on both sides of the insulating substrate, respectively, and an interstitial via hole, (b) an insulating resin disposed on both sides of the inner layer material, respectively, (c) an outer conductive pattern disposed on the surface of the insulating resin and (d) a surface via hole electrically connecting between the inner conductive pattern and the outer conductive pattern. The outer conductive pattern is formed of a metal foil with insulating resin comprising the insulating resin and a metal foil adhered to the insulating resin. An interstitial via hole has a conductive paste that is applied to a through hole. A surface via hole has a metal plating that is applied to a non-through hole. With this structure, the excellent ability to accommodate wiring is realized. The strength in adhesion between the insulating resin and the conductive pattern for outer layer is enhanced remarkably with a resulting contribution to maintaining an excellent components mounting strength even when a outer conductive pattern becomes small in dimension.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

SPECIFICATION:

After the title and before the first paragraph:

THIS APPLICATION IS A U.S. NATIONAL PHASE
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PCT/JP00/08803.

ABSTRACT:

00013372.4.0701

A multilayer printed wiring board ~~of the present invention~~ includes (a) an inner layer material ~~(1)~~ that includes an insulating substrate ~~(3)~~, an inner conductive pattern ~~(2, 2a, 2b)~~ formed of a metal foil and disposed on both sides of the insulating substrate, respectively, and an interstitial via hole ~~(4, 4a, 4b)~~, (b) an insulating resin ~~(5b)~~ disposed on both sides of the inner layer material, respectively, (c) an outer conductive pattern ~~(8)~~ disposed on the surface of the insulating resin and (d) a surface via hole ~~(7)~~ electrically connecting between the inner conductive pattern and the outer conductive pattern. The outer conductive pattern is formed of a metal foil ~~(5)~~ with insulating resin comprising the insulating resin ~~(5b)~~ and a metal foil ~~(5a)~~ adhered to the insulating resin ~~(5b)~~. An interstitial via hole has a conductive paste that is applied to a through hole. A surface via hole has a metal plating ~~(5c)~~ that is applied to a non-through hole. With this structure, the excellent ability to accommodate wiring is realized. The strength in adhesion between the insulating resin and the conductive pattern for outer layer is enhanced remarkably with a resulting contribution to maintaining an excellent components mounting strength even when a outer conductive pattern becomes small in dimension.